

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
)
Redesignation of the 17.7 -19.7 GHz Frequency) IB Docket No. 98-172
Band, Blanket Licensing of Satellite Earth Sta-) RM-9005
tions in the 17.7 -20.2 GHz and 27.5-30.0 GHz) RM-9118
Frequency Bands, and the Allocation of Addi-)
tional Spectrum in the 17.3-17.8 GHz and)
24.75-25.25 GHz Frequency Bands for Broad-)
cast Satellite-Service Use)

To: The Commission

COMMENTS OF AIRTOUCH COMMUNICATIONS, INC.

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SUMMARY

In this proceeding, the Commission seeks to redesignate portions of the 18 GHz band to facilitate the deployment of ubiquitous GSO/FSS and NGSO/FSS systems, while ensuring continued access to the band by terrestrial FS operators. AirTouch recognizes that sharing in bands where satellite services are ubiquitously deployed is not possible, and therefore parties must make certain spectrum concessions to achieve band segmentation. In so doing, however, it is critical that any band segmentation plan that is adopted be designed to protect and preserve essential existing and future terrestrial FS operations.

Currently, there are tens of thousands of 18 GHz terrestrial FS links in operation, providing a “variety of important communications needs, including remote monitoring of gas and petroleum pipelines, public safety links, video distribution links, and point-to-point data links.” The 18 GHz band is also used to meet existing and growing needs of cellular users for backhaul microwave routes, as well as to support new services such as PCS. AirTouch, for example, actively uses 18 GHz spectrum to support approximately 23% of its microwave needs in the Los Angeles cellular market alone, and expects this use to increase. Given the importance of 18 GHz spectrum to AirTouch and other terrestrial FS users, and to the public in general, the Commission must modify its band plan to balance the requirements of terrestrial FS users more equally with those of FSS licensees.

As proposed, the Commission’s plan would effectively eliminate the ability of terrestrial FS operators to implement future operations in the narrowband point-to-point frequencies (18.92-19.16 GHz, paired with 18.58-18.82). This would be a tremendous blow to users like AirTouch, for whom 84 percent of its 18 GHz microwave usage in Los Angeles is in the narrowband frequencies. The band plan should instead be modified to preserve existing and future wideband uses of the 18 GHz band by point-to-point operators. This should be achieved by allowing terrestrial FS users to maintain their current shared co-primary status in the 19.26-19.3 GHz band, and by rejecting the proposal to allow BSS operations in the 17.7-17.8 GHz band after April 1, 2007. Because elimination of the availability of the 18.92-19.16 GHz portion of the narrowband allocation renders the pairing at 18.58-18.82 GHz useless, AirTouch recommends modifying the band plan to allow terrestrial FS and GSO/FSS shared use of 18.3 to 18.55 GHz, in lieu of 18.55 to 18.8 GHz, in order to maintain, as closely as possible, current terrestrial uses of the 18 GHz band.

In addition, grandfathered terrestrial FS operators must be allowed to make certain modifications to their systems without losing primary status, consistent with those permitted by the Commission in its proceeding to clear the 2 GHz band for emerging technologies, or be fairly relocated. The Commission must also place certain limits on the use of the shared bands (18.55-18.8 and 19.3-19.7 GHz bands) by FSS operators to ensure that the bands remain available for use by terrestrial FS users. Taken together, these various modifications are necessary to help ameliorate the adverse consequences to terrestrial FS licensees and the public, which would otherwise result from the Commission’s band segmentation plan.

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To: The Commission

COMMENTS OF AIRTOUCH COMMUNICATIONS, INC.

AirTouch Communications, Inc. ("AirTouch")¹ hereby submits its comments in response to the Commission's *Notice of Proposed Rulemaking*, IB Docket No. 98-172, FCC 98-235 (rel. Sept. 18, 1998), *summarized*, 63 Fed. Reg. 54100 (1998) ("*NPRM*"). The *NPRM* seeks comment on the Commission's proposal to redesignate portions of the 18 GHz band to allow Geostationary Orbit ("GSO") and Non-Geostationary Orbit ("NGSO") Fixed Satellite Service ("FSS") operators greater ease to deploy their satellite systems, while ensuring continued access to the band by terrestrial fixed service ("FS") operators, including point-to-point microwave operators and cable television relay systems ("CARS"). As described in detail below, existing and future terrestrial FS needs in this band are enormous. Thus, AirTouch submits that it is critical that any band segmentation plan that is adopted be designed to protect and preserve essential existing and future terrestrial FS operations.

¹ AirTouch is a CMRS provider with interests in cellular, paging and PCS systems that utilize, in part, 18 GHz terrestrial fixed point-to-point microwave services to provide backhaul support for its CMRS operations. Accordingly, it has a direct interest in the outcome of this proceeding.

BACKGROUND

In this proceeding, the Commission has proposed to redesignate the 17.7-19.7 GHz (“18 GHz”) band currently allocated for use on a shared basis between terrestrial FS users and FSS licensees to make “more efficient and better use” of the spectrum.² While there are many existing FS users operating in this band, there are currently no commercial FSS systems in operation. The proposed deployment of FSS systems, however, has raised questions about the feasibility of sharing between terrestrial FS and ubiquitously deployed FSS earth stations. The Commission has tentatively concluded that sharing is not possible and that current technology necessitates separating terrestrial FS operations from ubiquitously deployed FSS earth station operations into dedicated sub-bands.

Currently, terrestrial FS users have access to 2000 MHz of spectrum in the 18 GHz band on a co-primary basis with GSO/FSS, NGSO/FSS, and Mobile Satellite Service Feeder Link (“MSS/FL”) licensees.³ Under the Commission’s proposed band plan, however, terrestrial FS users will lose access to 750 MHz of spectrum that is to be designated for use on a primary basis by FSS systems (250 MHz between 18.3-18.55 GHz and 500 MHz between 18.8 to 19.3 GHz). Within this 750 MHz of spectrum, the Commission has proposed a blanket licensing procedure that would allow FSS earth stations to operate under a single system license. Terrestrial FS users will continue to share on a co-primary basis the 18.55-18.8 GHz band with GSO/FSS, and the 19.3-19.7 GHz band with MSS/FL. Although terrestrial FS would have sole primary use of the 17.7 to 18.3 GHz band

² *NPRM* at ¶ 1.

³ Specifically, 17.7-18.8 GHz is allocated to GSO/FSS and FS on a co-primary/shared basis; 18.8-19.3 GHz is allocated to NGSO/FSS and FS on a co-primary/shared basis; and 19.3-19.7 GHz is allocated to MSS/FL and FS on a co-primary/shared basis.

under the new plan, the Commission has proposed to allocate 100 MHz of this spectrum from 17.7-17.8 GHz band to the Broadcast Satellite Service (“BSS”) on a co-primary basis, effective April 1, 2007.

AirTouch recognizes that sharing in bands where services are ubiquitously deployed is not possible, and therefore parties must make certain spectrum concessions to achieve band segmentation. However, the Commission’s plan as proposed would deal a serious blow to important terrestrial FS operations in the 18 GHz band, requiring rechannelizing all of the FS operations to take into account loss of the mid-part of the CARS point-to-multipoint spectrum and over half of the narrowband point-to-point spectrum. Accordingly, AirTouch submits that the Commission must modify its plan to better minimize the adverse impacts of this rulemaking on existing and future terrestrial FS operations — which provide essential services to the public yet stand to lose access to a significant amount of spectrum.

I. TERRESTRIAL FIXED SERVICES PROVIDE IMPORTANT PUBLIC SERVICES AND MUST BE PROTECTED IN ANY NEW 18 GHZ BAND PLAN ADOPTED BY THE COMMISSION

While FSS systems have yet to be deployed in the 18 GHz band, there are literally “tens of thousands of terrestrial fixed links currently licensed” and providing important services in the 18 GHz band, including CARS, auxiliary broadcasting, local television transmission, fixed point-to-point microwave, and low power point-to-multipoint.⁴ As recognized by the Commission, “[t]hese services meet a variety of important communications needs, including remote monitoring of gas and petroleum pipelines, public safety links, video distribution links, and point-to-point data

⁴ NPRM at ¶ 8.

links.”⁵ AirTouch, for example, is an active user of 18 GHz terrestrial fixed point-to-point microwave links to support its cellular operations.

In AirTouch’s cellular market in Los Angeles, for example, microwave links are the preferred means of connecting its cellular system, where the regular threat of earthquakes makes heavy use of landline connections unreliable. AirTouch uses the 18 GHz band for approximately 23% of its microwave links in the Los Angeles area, second only to its usage of the 10 GHz band. 18 GHz microwave paths are also favored because they are particularly effective for short-distance paths (generally less than 3 miles long) in congested areas. Use of the 18 GHz band is expected to significantly increase as our network continues to evolve towards more closely spaced cell sites. Obviously, these microwave links support a cellular network relied upon by the public not only to carry out routine business and interpersonal communications, but also to support emergency mobile communications, such as E-911.

Moreover, growth in terrestrial FS usage of the 18 GHz band is likely to continue exponentially for several reasons. First, the 18 GHz band is necessary to meet the growing needs of cellular users for short-haul microwave routes, as well as “to support the introduction of new services such as digital television broadcasting, Personal Communications Services [(‘PCS’)], and other digital communications systems,” as recognized by the Commission.⁶ In addition, terrestrial FS use of this band is expected to increase “as a result of migration of users from the congested lower terrestrial fixed service bands” to the 18 GHz band.⁷ This migration is attributable, in part, to Commission action with regard to fixed microwave in the 2 GHz and 28 GHz proceedings. In

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

the 2 GHz proceeding, for example, the Commission determined it was necessary to clear the 2 GHz band of existing fixed microwave users, despite recognizing that those users provided “important and essential functions,” in order to create enough spectrum for new emerging technologies, such as PCS.⁸

More recently, the Commission declined to designate any portion of the 28 GHz band as primary for point-to-point microwave use, although it “acknowledge[d] that the potential number of users for the 4, 6, and 11 GHz bands has increased as a result of other Commission actions and that numerous requests are filed in the 6 and 11 GHz bands.”⁹ The Commission did so, in part, because “for short haul routes, there are assignments available in the 18, 23, and 39 GHz bands.”¹⁰ In this proceeding, however, the Commission has proposed to curtail spectrum availability for FS users in the 18 GHz band, thus limiting the continued availability of assignments to meet FS needs.

As discussed herein, however, the protection of existing and future 18 GHz band usage by terrestrial FS providers is clearly in the public interest. Thus, if band segmentation compels the removal of some of the spectrum currently allocated to terrestrial FS users, the Commission should expand the options of FS users in other bands, like the 6 and 11 GHz bands, as well as make certain modifications to the plan, as discussed below.

⁸ See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rulemaking*, 7 F.C.C.R. 6886, 6889-90 (1992); *Second Report and Order*, 8 F.C.C.R. 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 F.C.C.R. 6589 (1993); *Memorandum Opinion and Order*, 9 F.C.C.R. 1943 (1994); *Second Memorandum Opinion and Order*, 9 F.C.C.R. 7797 (1994).

⁹ See *Amendment of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, and to Establish Rules and Policies for LMDS and for FSS*, CC Docket No. 92-297, *First Report and Order and Fourth Notice of Proposed Rulemaking*, 11 F.C.C.R. 19005, 19042 (1996).

¹⁰ *Id.* (emphasis added).

II. GIVEN THE IMPORTANCE OF TERRESTRIAL FS OPERATIONS, THE BAND SEGMENTATION PLAN MUST BE MODIFIED TO MINIMIZE HARM TO TERRESTRIAL FS SYSTEMS

Given the demonstrated importance of 18 GHz spectrum to AirTouch and other terrestrial FS users, AirTouch would obviously prefer not to lose any spectrum in the 18 GHz band. Recognizing that band segmentation is necessary, however, due to the impossibility of sharing the 18 GHz band with ubiquitous FSS services, AirTouch discusses below certain modifications to the plan which must be made in order to balance the requirements of terrestrial FS users more equally with those of FSS licensees.

A. The Band Plan Should Be Modified to Preserve Terrestrial FS Use of 19.26-19.3 GHz, and to Allow FS Shared Use Between 18.3 to 18.55 GHz in Lieu of 18.55 to 18.8 GHz

18 GHz terrestrial FS systems operate according to a channeling plan set forth in the Commission's rules, which includes frequency separations (or pairings) within the band primarily to accommodate two-way point-to-point services.¹¹ In addition, CARS facilities typically use contiguous spectrum for their point-to-multipoint operations in the 18 GHz band.¹² Due to the difficulties of coordinating point-to-point terrestrial FS operations with point-to-multipoint operations, these services have generally been licensed in separate portions of the 18 GHz band, as follows: (1) 17.7-18.14 GHz paired with 19.26-19.7 GHz — point-to-point wideband; (2) 18.58-18.82 GHz paired with 18.92-19.16 GHz — point-to-point narrowband; and (3) 18.14-18.58 GHz — point-to-multipoint CARS.

¹¹ See 47 C.F.R. § 101.147(r).

¹² See 47 C.F.R. § 78.18(a)(4).

The Commission's proposal to eliminate new terrestrial FS use of the 18.3 to 18.55 GHz and 18.8-19.3 GHz bands would have several adverse consequences the Commission may not have intended, and these impacts must be ameliorated for any band segmentation plan to succeed. First, the proposal would eliminate all of one side of the narrowband point-to-point operations at 18.92-19.16 GHz, effectively making the other half of the pair at 18.58-18.82 GHz useless. Second, the proposal would eliminate part of the wideband point-to-point operations at 19.26-19.3 GHz, effectively making the other half of the pair at 17.7-17.74 GHz useless. And third, the proposal would eliminate 250 MHz (18.3-18.55 GHz) of the 440 MHz of spectrum currently being utilized by CARS.

The Commission's proposal to effectively eliminate the ability of terrestrial FS operators to implement future operations in the narrowband frequencies is a tremendous blow to users like AirTouch, for whom *84 percent* of its 18 GHz microwave usage in Los Angeles is in the narrowband point-to-point frequencies.¹³ Because the narrowband point-to-point allocation will be essentially useless, it is critical that the band plan be modified to preserve existing and future wideband uses of the 18 GHz band by point-to-point operators. Accordingly, AirTouch opposes the redesignation of the 19.26-19.3 GHz band and urges the Commission to allow terrestrial FS users to maintain their current shared co-primary status in the 19.26-19.3 GHz band. To do otherwise would render the frequency pairing at 17.7-17.74 GHz useless or compel rechannelization of the spectrum.

¹³ Although the Commission has proposed to grandfather existing narrowband point-to-point operations, it is unclear what modifications, if any, licensees will be allowed to make. As discussed in Section II.C below, this proposal, if left unchanged, could soon render existing grandfathered operations obsolete, disrupting current operations and compelling relocation.

AirTouch also recognizes that CARS operators stand to lose 250 MHz of spectrum under the Commission's band proposal. Because elimination of the availability of the 18.92-19.16 GHz portion of the narrowband allocation renders the pairing at 18.58-18.82 GHz useless, AirTouch would not object to modifying the band plan to allow terrestrial FS and GSO/FSS shared use of the 18.3 to 18.55 GHz, in lieu of 18.55 to 18.8 GHz, in order to preserve the CARS spectrum.¹⁴ In so doing, however, the Commission must decline to allow any future BSS encroachment in the wideband point-to-point allocation, as discussed below.

B. The Commission Should Not Allow Co-Primary BSS Operations in the 17.7-17.8 GHz Band

Any elimination of the existing narrowband channels makes reliance on the wideband channels (17.7-18.14 GHz and 19.26-19.7 GHz) a necessity, which in turn makes protection of these channels for the exclusive use of terrestrial FS users of paramount importance. In this regard, the Commission has proposed allowing terrestrial FS systems to have primary use of 600 MHz of spectrum from 17.7-18.3 GHz, of which 440 MHz is currently used for point-to-point FS (17.7-18.14 GHz). Yet the Commission has also proposed restricting this primary allocation by allowing a future 100 MHz BSS allocation in the 17.7-17.8 GHz band segment, to be shared with existing and future terrestrial FS operations beginning April 1, 2007. AirTouch opposes the Commission's proposal to further compromise the limited amount of primary FS spectrum to allow sharing with BSS; AirTouch and other terrestrial FS users simply cannot afford to lose any further spectrum in the 18 GHz band, even at a later date.

¹⁴ AirTouch does object, however, to the Commission's suggestion that the current 440 MHz CARS allocation be expanded to 450 MHz. *See NPRM* at ¶ 31. There is no justification for increasing the spectrum available to CARS, while so drastically cutting back on the availability of spectrum for point-to-point FS users.

As noted above, the Commission's proposal will already result in the virtual elimination of the narrowband point-to-point FS uses in the 18 GHz band, and it is thus critical that existing 18 GHz wideband channel pairings not be disrupted. Available spectrum for terrestrial FS users in other bands, like the 2 GHz band, is also being eroded, while the need for terrestrial FS spectrum to support the growth of such services as cellular and PCS is ongoing and increasing. The Commission has also recently begun the process of identifying the long-term spectrum requirements for future "third generation" mobile wireless telecommunications systems, which some groups have initially estimated to be as high as 499 megahertz for terrestrial wireless systems.¹⁵ Obviously, these new third generation wireless uses will also require the support of terrestrial FS systems. Given these factors, the Commission cannot further compromise terrestrial FS use of the 18 GHz band by allocating yet more spectrum for ubiquitous satellite services.

It is highly unlikely that terrestrial FS will be able to share spectrum with BSS. BSS is a ubiquitously deployed satellite service intended for use by end user customers. Given the Commission's tentative conclusion that terrestrial FS sharing with ubiquitously deployed satellite services is not feasible,¹⁶ the notion that terrestrial FS and BSS *could* share the 17.7-17.8 GHz band at some point is counterintuitive. Even the Commission notes that "it is not clear that sharing between BSS and terrestrial fixed services is feasible in the 17.7-17.8 GHz band."¹⁷ For all these reasons, the Commission's proposed April 1, 2007, BSS shared allocation for the 17.7-17.8 GHz band should be abandoned.

¹⁵ See *Public Notice*, "Commission Staff Seek Comment on Spectrum Issues Related to Third Generation Wireless/IMT-2000," Report No. IN 98-48, DA 98-1703 (Aug. 26, 1998).

¹⁶ See, e.g., *NPRM* at ¶ 1.

¹⁷ See *id.* at ¶ 79.

C. Grandfathered Terrestrial FS Operators Must Be Permitted to Make Certain Modifications to Their Systems, or Be Fairly Relocated

As noted, there are many existing terrestrial FS users in the 18 GHz band, but no commercial satellite systems currently operating. In the bands where existing terrestrial FS users would lose their co-primary status with FSS licensees (currently the 18.3-18.55 GHz and 18.8-19.3 GHz bands, as proposed), the Commission has proposed to grandfather existing terrestrial FS operations. In AirTouch's Los Angeles market alone, approximately 84 % of its 18 GHz terrestrial FS point-to-point microwave operations would fall within the bands subject to grandfathering, as mentioned above. Accordingly, it is crucial that the existing terrestrial FS investments and operations subject to grandfathering be sufficiently protected. The Commission believes that because detailed technical operating parameters exist for these grandfathered terrestrial FS stations, FSS operators will be able to design their systems and locate their facilities to avoid reception of such interference. The Commission's grandfathering proposal has two elements:

- First, grandfathered terrestrial FS operations would receive interference protection from satellite operations, and satellite earth stations must accept any interference they receive from grandfathered terrestrial FS operations; if, however, FSS operators cannot avoid interference from existing grandfathered FS operations, relocation will be necessary.
- Second, grandfathered terrestrial FS licensees *would not be allowed to expand or change their current operations* in any of the bands in which grandfathering applies in any manner that *might increase* interference to satellite earth stations.¹⁸

The second aspect of the grandfathering proposal that would prevent terrestrial FS users from expanding or changing their current operations must be modified. Establishing a condition that *any* change or expansion of a grandfathered 18 GHz terrestrial FS system will cause

¹⁸ See *id.* at ¶¶ 40-41.

it to lose its primary protected status if it *might interfere* with FSS operations ignores the rights of existing users and is fundamentally at odds with the Commission's blanket licensing policy for the grandfathered bands. Because the station locations of FSS operators are unknown under blanket licensing,¹⁹ it will be impossible to frequency coordinate and determine whether a modification "might" interfere with FSS operations; this, in effect, will preclude any modifications. This inability to modify facilities is also inconsistent with the Commission's actions in its proceeding to clear the 2 GHz band for emerging technologies. In that proceeding, the Commission allowed incumbent fixed microwave licensees to make certain modifications to their existing systems while retaining their primary status. These modifications included:

- Any change in antenna azimuth;
- Any change in antenna beam width;
- Any change in channel loading;
- Any change in emission;
- Any change in station location;
- Any change in ownership or control;
- Any increase in antenna height;
- Any increase in authorized power;
- Any reduction in authorized frequencies; and
- Situations where additional links may be required to complete a communications network, or where new facilities and/or frequencies are operationally connected to an existing system, if the applicant makes a valid showing of its need for the facilities.²⁰

The Commission should allow grandfathered terrestrial FS licensees to be able to make the same kinds of modifications in this proceeding without losing primary status.²¹ Otherwise, licensees will be inhibited or prevented from making inevitable and necessary changes to their facilities and would,

¹⁹ See, e.g., *NPRM* at ¶ 16.

²⁰ See *Public Notice*, "Two Gigahertz Fixed Microwave Licensing Policy," Mimeo 23115 (May 14, 1992).

²¹ The Commission has modified its 2 GHz microwave policy regarding what changes would trigger loss of primary status over time. The current policy is set forth in 47 C.F.R. § 101.81.

as a practical matter, be kept from taking advantage of new equipment and technologies. Absent such a grandfathering exception, licensees might not even be able to replace broken equipment, thus putting these important operations at risk. Further, these grandfathered facilities could soon become obsolete if no modifications or expansions were allowed.

If the Commission determines that future modifications and expansions are not possible, thereby curtailing the future value of grandfathered facilities, then the grandfathered licensees must be fairly relocated. Such relocation must be to comparable facilities that are fully paid for, tested and approved.²² In such a case, terrestrial FS systems should be grandfathered as primary until such time as they are relocated.

D. Certain Limits Are Required in the Shared Bands to Ensure They Will Still be Available for Terrestrial FS Use

Under the proposed plan, terrestrial FS users will continue to share on a co-primary basis the 18.55-18.8 GHz band with GSO/FSS, following the coordination procedures set forth in Section 25.203 of the Commission's rules. The Commission has stated that because of the "difficulty of operating in an environment where satellite operations are shared with terrestrial fixed services, we *anticipate* that satellite systems *may use* this segment mainly for large diameter earth stations such as gateways."²³ AirTouch is concerned that this conditional language is not enough to ensure that GSO/FSS operators *do* actually use the 18.55-18.8 GHz band for feeder links or

²² See, e.g., 47 C.F.R. §§ 101.69-101.81. AirTouch notes that if relocation to bands outside of the 18 GHz range is required, the costs involved may be more than simply replacing the antennas and radios. For example, if relocation must be made to the 6 or 11 GHz bands, those frequency ranges require the microwave dishes be at a higher mounting height than 18 GHz dishes, and the dishes themselves are larger. Such larger, higher-mounted equipment may raise tower loading concerns, especially on those tower sites that are shared with co-locators.

²³ NPRM at ¶ 64 (emphasis added).

gateways. Accordingly, the Commission should place express limits on the number of antennas GSO/FSS operators may deploy, or impose enhanced technical limits on their operations (*e.g.*, antenna size, performance standards, power limits, *etc.*), in order to preserve the availability of spectrum in this shared band for terrestrial FS users.

Similarly, the Commission proposes to retain terrestrial FS shared use of the 19.3-19.7 GHz band along with MSS/FL, concluding that “because of the limited number of MSS/FL earth stations in the 19.3-19.7 GHz band, sharing of this band by MSS/FL and terrestrial fixed services should continue under the current sharing requirements.”²⁴ The 19.3-19.7 GHz band is the downlink portion of the MSS allocation. The uplink portion of the allocation occurs at 29.1-29.5 GHz, and MSS operations in at least the 29.1-29.25 GHz portion are limited to a total of 10 feeder link earth station complexes (eight by one MSS operator and two by the other MSS operator).²⁵ AirTouch believes that these limits on the number of earth stations in the uplink MSS band must also be explicitly applied to the entire downlink MSS band (19.3-19.7 GHz) in order to ensure that the band will still be available for shared use with terrestrial FS users.

²⁴ *Id.* at ¶ 32; *see* 47 C.F.R. §§25.203, 101.103.

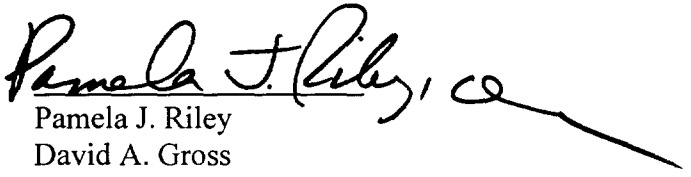
²⁵ *See* 47 C.F.R. § 25.257(c).

CONCLUSION

Accordingly, AirTouch respectfully requests that the Commission adopt the rules and policies expressed herein.

Respectfully submitted,

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November 19, 1998

CERTIFICATE OF SERVICE

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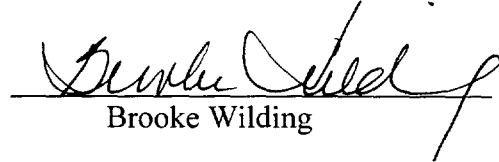
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